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Application of cryogenic technologies for NMR logging tool

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Abstract

The development of heavy oil and bitumen deposits is becoming an actual problem in last years. In this paper the authors propose to use cryogenic technologies for improving the sensitivity of nuclear magnetic resonance logging tool. Particularly, it is proposed to use a magnetic system made of a high temperature superconductor. The low temperature of the magnetic system is provided by the thermal contact with cryocapacitor, which is made of a material with a high specific heat at low temperatures. Experimental data are presented.

Keywords

Cryocapacitor, Cryogenic technologies, Nuclear magnetic resonance NMR logging tool